

REMARKS/ARGUMENTS

In the Action the Examiner has applied the Mahoney et al. reference (United States Patent No. 5,773,726). The Examiner has stated that claims 1 and 9 are effectively non-inventive in view of the Mahoney et al. teachings. Essentially, the argument is that Mahoney provides flow averaging probe and a method of measuring fluid flow comprising all of the elements of claims 1 and 9.

Applicant respectfully disagrees with the Examiner on the analysis. It is Applicant's position that Mahoney et al. is not capable of measuring fluid flow in the same manner as Applicant nor is the apparatus for doing so similar to Applicant's. The Mahoney et al. reference is an apparatus for measuring a pressure differential. Applicant does not dispute the fact that Mahoney is clearly inserted within the internal volume of the conduit and that Mahoney provides openings along the probe. This, however, is where the similarity ends. The Mahoney probe is shown in cross-section in Figure 2 where there are two distinct and individual compartments for receiving fluid therein. The device provides for a temperature sensor denoted by numeral 32 which sensor extends the full length of the apparatus to provide information at a separate point. From the cross-sectional representation in Figure 2 of Mahoney, it is evident that there is no sensor adjacent or proximate the apertures whatsoever. Accordingly, fluid entering into, for example, one aperture at one end of the probe versus fluid entering at a second aperture closest to the remaining apparatus are indistinguishable in view of the fact that the chamber is common to both of these extreme locations. This is further compounded by the fact no discrimination can be ascertained between the fluid entering the extreme point since there is no flow sensor adjacent the apertures.

In the disclosure of Mahoney et al., it is clearly indicated that differential pressure is the property to be measured and to this end, column 2 beginning at line 24 indicates:

"The primary portion of the system comprises a pitot tube type of differential pressure flow sensor 4 ... which is inserted diametrically into a pipe 6 carrying fluid."

It is further indicated in column 2 beginning at line 44 that:

“Attached to the pressure transducer 12 is the so-called differential pressure transmitter 24, but which, in the context of this invention, processes and transmits signals representative of the mass and volume of the fluid flowing in the pipe 6, as well as differential pressure and fluid flow rate.”

The arrangement of Mahoney et al. therefore combines all of the individually sampled fluid streams received through the apertures in the probe 4 and subsequently senses the collected amount of fluid to be representative of the sample. This is in complete contrast to what Applicant has not only provided in its method but also in its apparatus. The independent claims in this application have been amended to clarify the apparatus details and method features of the application. In Applicant's arrangement, a plurality of apertures in the probe have a specific purpose to collect individual fluid streams at various points along the probe with the sensor being adjacent the apertures so that the sensor can effectively provide a representation of the flow which is a collation of individual fluid streams. In this situation, in view of the fact that the sensor is positioned adjacent or proximate the apertures, an average of the individual fluid streams is taken to provide a more accurate representation of fluid flow over a given area within a conduit within which the probe may be disposed. In the Mahoney reference, it would make no difference where the apertures were since the individual streams of fluid have no direct impact on the sensor. The sensor is at a completely different location from the apertures and therefore the fluid entering the apertures is collated and then sensed. In this manner, it is impossible for the Mahoney reference to provide a flow profile since individual fluid streams cannot be obtained and collated for representation of this data.

In view of this significant difference it is believed that specificity of the individual fluid streams in the independent claims now defines a patentable invention over the Mahoney reference and that the remaining objections to the dependent claims are overcome.

In respect of the Dieterich reference (United States Patent No. 3,803,921), this reference has been cited by the Examiner to provide the connection means for connecting a plurality of probes. Standing on its own, the Dieterich reference does not teach the apparatus in claims 1 and 5 or the method in claim 9 and accordingly, in view of

the significant differences now pointed out with respect to the Mahoney reference it is evident that Dieterich and Mahoney do not provide apparatus or a method as claimed in the newly presented claims. Reconsideration is respectfully requested.

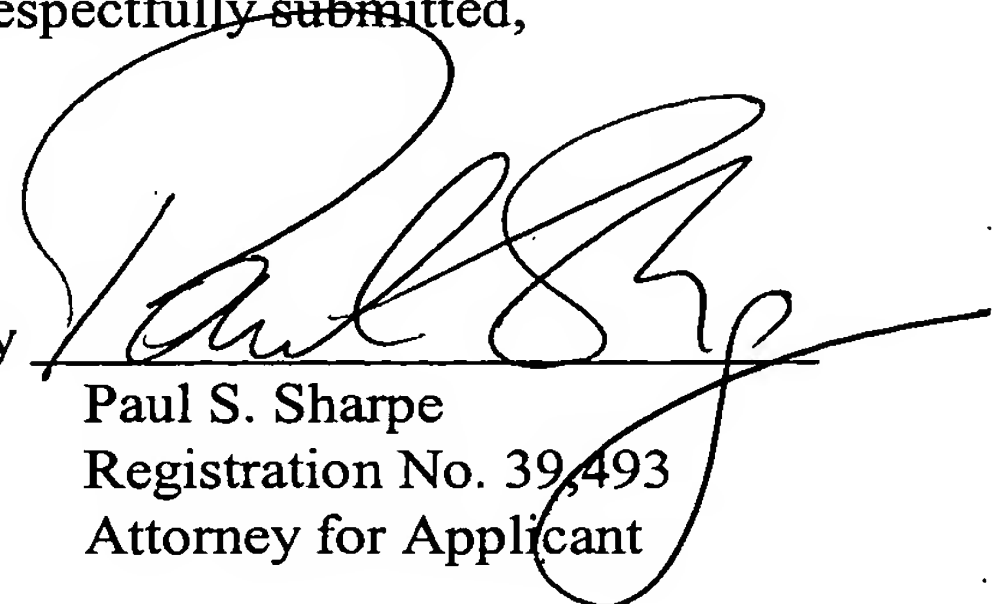
The Examiner has also cited the Hagen patent (United States Patent No. 5,442,958), the Wible patent (United States Patent No. 5,913,250) and the Rossow patent (United States Patent No. 5,233,865). These references have been applied with respect to individual features of the invention not provided for in Mahoney. Without going into extensive detail, Applicant submits that each of the references cited in addition to Mahoney et al. are only allegedly contributing features found in the dependent claims. It is Applicant's position that Mahoney et al. is efficient with respect to the amended claims and accordingly, ancillary references which cannot be found to be useful on their own can therefore not augment Mahoney et al. to render the newly presented claims non-inventive.

Applicant respectfully requests the Examiner's reconsideration regarding the claims which now speak to the individual fluid streams and the location of the sensor relative to the fluid streams. Applicant submits that these features are simply absent the prior art and that the newly presented claims define patentable distinction over the art.

Reconsideration of this application is respectfully requested.

Respectfully submitted,

By



Paul S. Sharpe
Registration No. 39,493
Attorney for Applicant